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EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/802,049	ELLIS, FRAMPTON E.	
	Examiner	Art Unit	
	OSCAR A. LOUIE	2436	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 March 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22,24-30,33-61,63-73,76 and 79-86* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22,24-30,33-61,63-73,76 and 79-84* is/are rejected.

7)☒ Claim(s) *77,85 and 86* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *See Continuation Sheet*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :07/28/2008; 12/23/2008; 02/05/2009; 03/12/2009; 04/23/2009.

DETAILED ACTION

This non-final action is in response to the Request for Continued Examination filing of 03/12/2009. Claims 23, 31, 32, 62, 74, 75, & 78 are cancelled. Claims 1-22, 24-30, 33-61, 63-73, 76, 77, & 79-86 are pending and have been considered as follows.

Examiner Note

In light of the applicant's amendments and remarks, the examiner hereby withdraws his previous Non-Statutory Obvious-type Double Patenting, Claim Objections, 35 U.S.C. 112 1st & 2nd paragraph rejections, and Specification Objections.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1, 3, 4, 10, 50, 73, 76, 77, 81, & 83 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- Claims 1, 81, & 83 recite "said at least one microchip including at least one inner firewall" and "said at least one inner firewall being located between said at least one control unit and at least one of said at least two processing units" however, it is unclear as to whether the applicant's are re-defining a common art term "microchip" as an entire

computing system (i.e. processor, memory, with instructions stored on the memory for execution by the processor to perform steps) or that the "microchip" is actually a substrate such as a wafer that has hardware sub-components on it where the combination of sub-components as a whole is a microprocessor (i.e. typically "processing unit" and "control unit" are common art terms referring the sub-components/parts within the microprocessor microchip itself); that is, it appears the applicant's claims are either directed towards a microprocessor that is a microchip with one or more firewalls built into the microchip itself to separate hardware sub-components (i.e. one substrate/wafer with several sub-components on it separated by an "inner firewall") or directed towards several computing systems separated by one or more of the common definition of a "firewall" which filters network traffic;

- Claims 3, 4, 10, 50, 73, 76, 77 disclose similar aspects as the above claims which are unclear;
    - with respect to these claims, in addition to the above issues, appear to claim that a microprocessor resides on a microchip, "said at least one microchip includes at least one special purpose microprocessor"; perhaps the language should be clarified that the microchip is a microprocessor, as the current claim language appears to draw confusion by claiming a microprocessor microchip is placed on top of another microprocessor microchip;
    - in addition, the limitation "said at least one microchip includes at least one personal computer system on said microchip" provides further indefiniteness as the examiner does not readily understand what appears to be a re-defining of a

common art term for a sub-component of a computing system, as an entire system itself fitted onto one single microchip (i.e. processor, storage memory, network communications interface, etc. all placed on one microchip when typically these components are comprised of one or more separate microchips).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 10-17, 21, 22, 24, 25, 33-44, 50-61, 65-67, 69-71, 73, 76, 79, & 84 are rejected under 35 U.S.C. 103(a) as being unpatentable over McKelvey (US-5896499-A) in view of De Leva et al. (US-5784551) in view of Alina et al. (US-6366472).

Claim 1:

McKelvey discloses a personal computer comprising,

- "said at least one microchip including at least one inner firewall being configured to deny access to said at least one control unit from at least one network of computers" (i.e. "an expansion board is coupled to the system bus with a secondary embedded security processor dedicated to network communications security tasks…Main processor 110 may permit selected elements to communicate with other elements directly or may require

them…to communicate only with main processor 110 with appropriate communication traffic being forwarded by main processor 110…") [column 5 lines 38-41 & column 6 lines 30-32];

- "said at least one inner firewall being located between said at least one control unit and at least one of said at least two processing units" (i.e. "…Main processor 110 may permit selected elements to communicate with other elements directly or may require them…to communicate only with main processor 110 with appropriate communication traffic being forwarded by main processor 110…") [column 6 lines 30-32];
- "said at least two processing, units having at least one network connection to said at least one network of computers" (i.e. "an expansion board is coupled to the system bus with a secondary embedded security processor dedicated to network communications security tasks") [column 5 lines 38-41];
- "said at least one network of computers including at least the Internet" (i.e. "The Internet") [column 1 lines 41-44];

but, they do not explicitly disclose,

- "at least one microchip including at least one general purpose microprocessor with at least one control unit and at least two processing units on said at least one microchip," although De Leva et al. do suggest a device with at least one microprocessor with at least one control unit and at least two processing units, as recited below;
- "at least one Faraday Cage surrounding said at least one microchip," although Alina et al. do suggest a Faraday cage surrounding a microchip/microprocessor, as recited below;

however, De Leva et al. do disclose,

- "With reference to FIG. 1, UC0 and UC1 indicate two control units…Each of the processing units UP0 and UP1…Each of the two busses is connected to the blocks UP0, PER0, MES0, I/U0 of the control unit UC0 and in parallel to the blocks UP1, PER1, MES1 an I/U1 of the control unit UC1…" [FIG's 1 & 2 illustrate a device with multiple processing units and control units & column 4 lines 3-26];

whereas, Alina et al. do disclose,

- "To prevent EMI from leaking from the top of a device, the present invention is mateable with an EMI containment box as shown in FIG. 5. EMI containment box 51, such as a Faraday cage, is placed over conductive enclosure 50…" [column 2 lines 36-59];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant's invention to include, "at least one microchip including at least one general purpose microprocessor with at least one control unit and at least two processing units on said at least one microchip" and "at least one Faraday Cage surrounding said at least one microchip," in the invention as disclosed by McKelvey for the purposes of providing an EMI shield for a microprocessor to protect against interference.

Claim 10:

McKelvey, De Leva et al., & Alina et al. disclose a personal computer, as in Claim 1 above, their combination further comprising,

- "said at least one microchip includes at least two of said at least one inner firewall configured to operate within said personal computer" (i.e. "an expansion board is coupled to the system bus with a secondary embedded security processor dedicated to network communications security tasks") [column 5 lines 38-41];
- "said personal computer configured to operate in said at least one network of computers" (i.e. "an expansion board is coupled to the system bus with a secondary embedded security processor dedicated to network communications security tasks") [column 5 lines 38-41];
- "at least a first of said at least one inner firewall is configured to deny access to at least said at least one control unit of said personal computer by at least one other computer through said at least one network connection with said personal computer during at least one shared operation" (i.e. "...Main processor 110 may permit selected elements to communicate with other elements directly or may require them...to communicate only with main processor 110 with appropriate communication traffic being forwarded by main processor 110...") [column 6 lines 31-32];
- "at least a second of said at least one inner firewall is configured to allow access to at least one of said at least two processing units of said personal computer by said at least one other computer through said at least one network connection with said personal computer during said at least one shared operation" (i.e. "...Main processor 110 may

permit selected elements to communicate with other elements directly or may require them…to communicate only with main processor 110 with appropriate communication traffic being forwarded by main processor 110…") [column 6 lines 30-31].

Claim 11:

McKelvey, De Leva et al., & Alina et al. disclose a personal computer, as in Claim 10 above, their combination further comprising,

- "at least one configuration of said at least one inner firewall is configurable by at least one user of said personal computer or by at least one authorized network administrator" (i.e. "User authentication program 140, initial firewall configuration 150, and firewall monitoring program 160 are all examples of firewall control programs and are executed by main processor 110 to control the activity of embedded security processor 173") [column 10 lines 46-50].

Claim 12:

McKelvey, De Leva et al., & Alina et al. disclose a personal computer, as in Claim 11 above, their combination further comprising,

- "at least one change in said at least one configuration of said at least one inner firewall is made, at least in part, by using field-programmable gate arrays (FPGA's)" (i.e. "The

firewall configuration data is similarly stored in a protected area of DASD 180. This means that the security programs and firewall configuration can only be changed or updated by main processor 110") [column 10 lines 34-37].

Claim 13:

McKelvey, De Leva et al., & Alina et al. disclose a personal computer, as in Claim 11 above, their combination further comprising,

- "at least one change in said at least one configuration of said at least one inner firewall involves at least one motherboard" (i.e. "System bus 105 provides a communication link between main processor 110 and embedded security processor 173") [column 9 lines 32-33].

Claim 14:

McKelvey, De Leva et al., & Alina et al. disclose a personal computer, as in Claim 11 above, their combination further comprising,

- "at least one change in said at least one configuration of said at least one inner firewall involves at least one manual switch" (i.e. "Expansion board 170 provides the security features for system 100") [column 7 lines 19-20].

Claim 15:

McKelvey, De Leva et al., & Alina et al. disclose a personal computer, as in Claim 10 above, their combination further comprising,

- "said at least one firewall includes at least one hardware component" (i.e. "Expansion board 170 provides the security features for system 100") [column 7 lines 19-20].

Claim 16:

McKelvey, De Leva et al., & Alina et al. disclose a personal computer, as in Claim 10 above, their combination further comprising,

- "said at least one firewall includes at least one software component" (i.e. "expansion board 170 is an after-market hardware/software solution") [column 7 line 23].

Claim 17:

McKelvey, De Leva et al., & Alina et al. disclose a personal computer, as in Claim 10 above, their combination further comprising,

- "said at least one firewall includes at least one firmware component" (i.e. "expansion board 170 is an after-market hardware/software solution") [column 7 line 23].

Claim 21:

McKelvey, De Leva et al., & Alina et al. disclose a personal computer, as in Claim 10 above, their combination further comprising,

- "said at least one firewall denies access at least temporarily to at least one microprocessor of said personal computer by said at least one other computer through said at least one network connection during said at least one shared operation" (i.e. "to communicate only with main processor 110 with appropriate communication traffic being forwarded by main processor 110") [column 6 lines 31-32].

Claim 22:

McKelvey, De Leva et al., & Alina et al. disclose a personal computer, as in Claim 10 above, their combination further comprising,

- "said at least one firewall allows access at least temporarily to at least one microprocessor of said personal computer by said at least one other computer through said at least one network connection during said at least one shared operation" (i.e. "Main processor 110 may permit selected elements to communicate with other elements directly or may require them") [column 6 lines 30-31].

Claim 24:

McKelvey, De Leva et al., & Alina et al. disclose a personal computer, as in Claim 10 above, their combination further comprising,

- "said at least one network of computers includes at least a World Wide Web" (i.e. "The Internet") [column 1 lines 41-44].

Claim 25:

McKelvey, De Leva et al., & Alina et al. disclose a personal computer, as in Claim 10 above, their combination further comprising,

- "said at least one network connection includes at least one optical fiber connection directly to said personal computer" (i.e. "fiber optics") [column 6 line 3].

Claims 33-41:

McKelvey, De Leva et al., & Alina et al. disclose a personal computer, as in Claim 10 above, their combination further comprising,

- "said at least one microchip has at least four processing units" and "said at least one microchip has at least eight processing units" and "said at least one microchip has at least 16 processing units" and "said at least one microchip has at least 32 processing units" and "said at least one microchip has at least 64 processing units" and "said at least one microchip has at least 128 processing units" and "said at least one microchip has at least 256 processing units" and "said at least one microchip has at least 512 processing units" and "said at least one microchip has at least 1024 processing units" [FIG 3].

Claim 42:

McKelvey, De Leva et al., & Alina et al. disclose a personal computer, as in Claim 10 above, their combination further comprising,

- "said firewall is at least one hardware component" (i.e. "Expansion board 170 provides the security features for system 100") [column 7 lines 19-20].

Claim 43:

McKelvey, De Leva et al., & Alina et al. disclose a personal computer, as in Claim 10 above, their combination further comprising,

- "said at least one network connection is configured for at least one wireless connection" (i.e. "infrared (IR) and other forms of wireless connections") [column 6 lines 3-4].

Claim 44:

McKelvey, De Leva et al., & Alina et al. disclose a personal computer, as in Claim 43 above, their combination further comprising,

- "said at least one wireless connection is to said at least one network of computers" (i.e. "infrared (IR) and other forms of wireless connections") [column 6 lines 3-4].

Claim 50:

McKelvey, De Leva et al., & Alina et al. disclose a personal computer, as in Claim 1 above, their combination further comprising,

- "said at least one microchip includes at least two of said at least one inner firewall configured to operate within said personal computer, which is configured to operate in at least one network of computers" (i.e. "an expansion board is coupled to the system bus with a secondary embedded security processor dedicated to network communications security tasks") [column 5 lines 38-41];
- "said at least one microchip including at least two memory hardware components" [Fig 3];
- "said at least a first of said at least one inner firewall is configured to deny access to at least a first of said at least two processing units and at least a first of said at least two memory hardware components of said personal computer by at least one other computer through said at least one network connection with said personal computer during at least one shared operation" (i.e. "…Main processor 110 may permit selected elements to

communicate with other elements directly or may require them…to communicate only with main processor 110 with appropriate communication traffic being forwarded by main processor 110…") [column 6 lines 31-32];

- "at least a second of said at least one inner firewall is configured to allow access to at least a second of said at least two processing units and at least a second of said at least two memory hardware components of said personal computer by said at least one other computer through said at least one network connection with said personal computer during said at least one shared operation" (i.e. "…Main processor 110 may permit selected elements to communicate with other elements directly or may require them…to communicate only with main processor 110 with appropriate communication traffic being forwarded by main processor 110…") [column 6 lines 30-31].

Claim 51:

McKelvey, De Leva et al., & Alina et al. disclose a personal computer, as in Claim 50 above, their combination further comprising,

- "said at least one firewall is configured to deny access to at least said second of said at least two memory hardware components of said personal computer by said personal computer during said at least one shared operation" (i.e. "to communicate only with main processor 110 with appropriate communication traffic being forwarded by main processor 110") [column 6 lines 31-32].

Claims 52-55:

McKelvey, De Leva et al., & Alina et al. disclose a personal computer, as in Claim 50 above, their combination further comprising,

- "said first of said at least two memory hardware components is at least one hard drive device";
- "said first of said at least two memory hardware components is at least one flash memory device";
- "said second of at least two memory hardware components is at least one flash memory device";
- "said second of said at least two memory hardware components is at least one random access memory (RAM) device";

(i.e. "Main memory 130 may be any type of memory device or component known to those skilled in the art. This would include Dynamic Random Access Memory (DRAM), Static RAM (SRAM), flash memory, cache memory, etc. While not explicitly shown in FIG. 1, main memory 130 may be a single type of memory component or may be composed of many different types of memory components") [column 6 lines 58-64].

Claims 56-58:

McKelvey, De Leva et al., & Alina et al. disclose a personal computer, as in Claim 50 above, their combination further comprising,

- "said second of said at least two memory hardware components is at least one hard drive device";

- "said second of said at least two memory hardware components is at least one read-only compact disk drive (CD-ROM) device";
- "said second of said at least two memory hardware components is at least one read-only digital video disk drive (DVD) device";

(i.e. "This would include CD-ROM drives, hard disk drives, optical drives, etc. Floppy disk 190 represents a typical 3.5 inch magnetic media disk known to those skilled in the art") [column 7 lines 1-4].

Claim 59:

McKelvey, De Leva et al., & Alina et al. disclose a personal computer, as in Claim 50 above, their combination further comprising,

- "said first of said at least two memory hardware components includes at least one Basic Input Output System (BIOS)" (i.e. "Input/Output (I/O) memory") [column 5 lines 56-57].

Claim 60:

McKelvey, De Leva et al., & Alina et al. disclose a personal computer, as in Claim 50 above, their combination further comprising,

- "at least one user of said personal computer retains preemptive control of said second of said at least two memory hardware components" (i.e. "to communicate only with main processor 110 with appropriate communication traffic being forwarded by main processor 110") [column 6 lines 31-32].

Claim 61:

McKelvey, De Leva et al., & Alina et al. disclose a personal computer, as in Claim 50 above, their combination further comprising,

- "at least one user of said personal computer retains preemptive control of all components of said personal computer" (i.e. "Main processor 110 may permit selected elements to communicate with other elements directly or may require them") [column 6 lines 30-31].

Claim 65:

McKelvey, De Leva et al., & Alina et al. disclose a personal computer, as in Claim 50 above, their combination further comprising,

- "said second of said at least two memory hardware components is volatile memory" (i.e. "Main memory 130 may be any type of memory device or component known to those skilled in the art. This would include Dynamic Random Access Memory (DRAM), Static RAM (SRAM), flash memory, cache memory, etc. While not explicitly shown in FIG. 1, main memory 130 may be a single type of memory component or may be composed of many different types of memory components") [column 6 lines 58-64].

Claim 66:

McKelvey, De Leva et al., & Alina et al. disclose a personal computer, as in Claim 50 above, their combination further comprising,

- "said first of said at least two memory hardware components is non-volatile memory" (i.e. "This would include CD-ROM drives, hard disk drives, optical drives, etc. Floppy disk 190 represents a typical 3.5 inch magnetic media disk known to those skilled in the art") [column 7 lines 1-4].

Claim 67:

McKelvey, De Leva et al., & Alina et al. disclose a personal computer, as in Claim 66 above, their combination further comprising,

- "said non-volatile memory is at least one of a magnetic random access memory (MRAM) or ovonic unified memory microchip" (i.e. "Main memory 130 may be any type of memory device or component known to those skilled in the art. This would include Dynamic Random Access Memory (DRAM), Static RAM (SRAM), flash memory, cache memory, etc. While not explicitly shown in FIG. 1, main memory 130 may be a single type of memory component or may be composed of many different types of memory components") [column 6 lines 58-64].

Claim 69:

McKelvey, De Leva et al., & Alina et al. disclose a personal computer, as in Claim 50 above, their combination further comprising,

- "said first of said at least two memory hardware components is read and write memory" (i.e. "Main memory 130 may be any type of memory device or component known to those skilled in the art. This would include Dynamic Random Access Memory (DRAM), Static RAM (SRAM), flash memory, cache memory, etc. While not explicitly shown in FIG. 1, main memory 130 may be a single type of memory component or may be composed of many different types of memory components") [column 6 lines 58-64].

Claim 70:

McKelvey, De Leva et al., & Alina et al. disclose a personal computer, as in Claim 50 above, their combination further comprising,

- "said second of said at least two memory hardware components is read-only memory" (i.e. "Main memory 130 may be any type of memory device or component known to those skilled in the art. This would include Dynamic Random Access Memory (DRAM), Static RAM (SRAM), flash memory, cache memory, etc. While not explicitly shown in FIG. 1, main memory 130 may be a single type of memory component or may be composed of many different types of memory components") [column 6 lines 58-64].

Claim 71:

McKelvey, De Leva et al., & Alina et al. disclose a personal computer, as in Claim 50 above, their combination further comprising,

- "any hardware component, software file, or firmware file can have its own said at least one inner firewall" (i.e. "Expansion board 170 provides the security features for system 100") [column 7 lines 19-20].

Claim 73:

McKelvey, De Leva et al., & Alina et al. disclose a personal computer, as in Claim 1 above, their combination further comprising,

- "said at least on microchip includes at least two of said at least one inner firewall configured to operate within said personal computer, which is configured to operate in

said at least one network of computers" (i.e. "an expansion board is coupled to the system bus with a secondary embedded security processor dedicated to network communications security tasks") [column 5 lines 38-41];

- "said at least one microchip including at least two memory hardware components" [Fig 3];
- "at least a first of said at least one inner firewall is configured to deny access to at least a first of said at least two memory hardware components of said personal computer by another computer through said at least one network connection with said personal computer during at least one shared operation" (i.e. "...Main processor 110 may permit selected elements to communicate with other elements directly or may require them...to communicate only with main processor 110 with appropriate communication traffic being forwarded by main processor 110...") [column 6 lines 31-32];
- "at least a second of said at least one inner firewall is configured to allow access to at least a second of said at least two memory hardware components of said personal computer by said at least one other computer through said at least one network connection with said personal computer during said at least one shared operation" (i.e. "...Main processor 110 may permit selected elements to communicate with other elements directly or may require them...to communicate only with main processor 110 with appropriate communication traffic being forwarded by main processor 110...") [column 6 lines 30-31].

Claim 76:

McKelvey, De Leva et al., & Alina et al. disclose a personal computer, as in Claim 1 above, their combination further comprising,

- "said personal computer system is contained in said at least one microchip" [Fig 3].

Claim 79:

McKelvey, De Leva et al., & Alina et al. disclose a personal computer, as in Claim 1 above, their combination further comprising,

- "said personal computer is at least one appliance that includes at least one of a handheld personal digital assistant, a telephone, a pager, a television, a game, a videotape player/recorder, a video camera, a compact disk (CD) player/recorder, a digital video disk (DVD) player/recorder, a radio, a camera, a printer, a fax machine, and an automobile" (i.e. "personal computer (PC)") [column 1 line 30].

Claim 84:

McKelvey, De Leva et al., & Alina et al. disclose a personal computer, as in Claim 1 above, their combination further comprising,

- "said at least one inner firewall includes at least one hardware component" [FIG 3];
- "the at least one inner firewall being configured to allow and/or deny access to portions of the at least one microchip both to at least one user of the personal computer and to at least one user of the at least one microchip from at least one network of computers during at least one shared use of the at least one microchip" (i.e. "to communicate only with main processor 110 with appropriate communication traffic being forwarded by main processor 110") [column 6 lines 31-32].

5. Claims 80-83 are rejected under 35 U.S.C. 103(a) as being unpatentable over McKelvey (US-5896499-A) in view of De Leva et al. (US-5784551) in view of Alina et al. (US-6366472) in view of Hornstein et al. (US-5905429-A).

Claims 80-83:

McKelvey discloses a personal computer comprising,

- "said at least one microchip including at least one inner firewall configured to deny access to said at least one control unit from said at least one network" (i.e. "an expansion board is coupled to the system bus with a secondary embedded security processor dedicated to network communications security tasks…an expansion board is coupled to the system bus with a secondary embedded security processor dedicated to network communications security tasks…Main processor 110 may permit selected elements to communicate with other elements directly or may require them…to communicate only with main processor 110 with appropriate communication traffic being forwarded by main processor 110…") [column 5 lines 38-41 & column 6 lines 30-32];
- "said at least one inner firewall located between said at least one control unit and at least one of said at least two processing units" (i.e. "an expansion board is coupled to the system bus with a secondary embedded security processor dedicated to network communications security tasks…Main processor 110 may permit selected elements to communicate with other elements directly or may require them…to communicate only with main processor 110 with appropriate communication traffic being forwarded by main processor 110…") [column 6 lines 30-32];

- "said at least two processing units connected to at least one network" (i.e. "an expansion board is coupled to the system bus with a secondary embedded security processor dedicated to network communications security tasks") [column 5 lines 38-41];
- "said at least one network including at least the Internet" (i.e. "The Internet") [column 1 lines 41-44];

but, they do not explicitly disclose,

- "said general purpose microprocessor includes at least one control unit and at least two processing units," although De Leva et al. do suggest a device with at least one microprocessor with at least one control unit and at least two processing units, as recited below;
- "at least one Faraday Cage surrounding at least one portion of said at least one microchip," although Alina et al. do suggest a Faraday cage surrounding a microchip/microprocessor, as recited below;
- "at least one microchip including at least one general purpose microprocessor with at least one photovoltaic cell located on said at least one microchip," although Hornstein et al. do suggest a processor with photovoltaic cell, as recited below;

however, De Leva et al. do disclose,

- "With reference to FIG. 1, UC0 and UC1 indicate two control units…Each of the processing units UP0 and UP1…Each of the two busses is connected to the blocks UP0, PER0, MES0, I/U0 of the control unit UC0 and in parallel to the blocks UP1, PER1, MES1 an I/U1 of the control unit UC1…" [FIG's 1 & 2 illustrate a device with multiple processing units and control units & column 4 lines 3-26];

whereas, Alina et al. do disclose,

- "To prevent EMI from leaking from the top of a device, the present invention is mateable with an EMI containment box as shown in FIG. 5. EMI containment box 51, such as a Faraday cage, is placed over conductive enclosure 50..." [column 2 lines 36-59];

and whereas, Hornstein et al. do disclose,

- "Photovoltaic cell array 22 is composed of one or more photovoltaic (i.e., "solar" or otherwise light-powered) cells, which together comprise an array 22...In operation, power for sound microchip 25 and speaker 26 is provided by photovoltaic cell array 22..." [column 4 lines 49-52 & 65-66];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant's invention to include, "said general purpose microprocessor includes at least one control unit and at least two processing units" and "at least one Faraday Cage surrounding at least one portion of said at least one microchip" and "at least one microchip including at least one general purpose microprocessor with at least one photovoltaic cell located on said at least one microchip," in the invention as disclosed by McKelvey for the purposes of providing power.

6. Claims 2, 45-47, 63, 64, & 72 are rejected under 35 U.S.C. 103(a) as being unpatentable over McKelvey (US-5896499-A) in view of De Leva et al. (US-5784551) in view of Alina et al. (US-6366472) in view of Purtell et al. (US-6950947-B1).

Claim 2:

McKelvey, De Leva et al., & Alina et al. disclose a personal computer, as in Claim 1 above, but their combination do not explicitly disclose,

- "an operating system associated with said apparatus includes a number of independent components, each component having its own firewall," although Purtell et al. do suggest each client having their own firewall, as recited below;

however, Purtell et al. do disclose,

- [Fig 2 illustrates several clients and their components each having their own firewall];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant's invention to include, "an operating system associated with said apparatus includes a number of independent components, each component having its own firewall," in the invention as disclosed by McKelvey, De Leva et al., & Alina et al. since it is suggested from Fig 2 that a plurality of client devices (i.e. components) may each have their own firewall.

Claims 45-47:

McKelvey, De Leva et al., & Alina et al. disclose a personal computer, as in Claim 10 above, but their combination do not explicitly disclose,

- "a part of an operating system of said personal computer includes at least two independent components, each component having its own firewall," although Purtell et al. does suggest several clients and their components each having their own firewall, as recited below;
- "an application program of said personal computer includes at least two independent components, each component having its own firewall," although Purtell et al. does suggest several clients and their components each having their own firewall, as recited below;
- "a part of an application program of said personal computer includes at least two independent components, each component having its own firewall," although Purtell et al. does suggest several clients and their components each having their own firewall, as recited below;

however, Purtell et al. does disclose,

- [Fig 2 illustrates several clients and their components each having their own firewall];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant's invention to include, "a part of an operating system of said personal computer includes at least two independent components, each component having its own firewall" and "an application program of said personal computer includes at least two independent components, each component having its own firewall" and "a part of an application program of said personal

computer includes at least two independent components, each component having its own firewall," in the invention as disclosed by McKelvey, De Leva et al., & Alina et al. since it is suggested from Fig 2 that a plurality of client devices (i.e. components) may each have their own firewall.

Claim 63:

McKelvey, De Leva et al., & Alina et al. disclose a personal computer, as in Claim 50 above, but their combination do not explicitly disclose,

- "said personal computer functions as at least one master in said at least one shared operation," although Purtell et al. does suggest a server providing services to other computers/programs, as recited below;

however, Purtell et al. does disclose,

- "The term "server" is commonly used to describe a computer program that provides services to other computer programs in the same or other computers" [column 3 lines 3-5];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant's invention to include, "said personal computer functions as at least one master in said at least one shared operation," in the invention as disclosed by McKelvey, De Leva et al., & Alina et al. since a computer may be used as a server (i.e. master) to its clients.

Claim 64:

McKelvey, De Leva et al., & Alina et al. disclose a personal computer, as in Claim 50 above, but their combination do not explicitly disclose,

- "said personal computer functions as at least one slave in said at least one shared operation," although Purtell et al. does suggest a client, as recited below;

however, Purtell et al. does disclose,

- "The term "client" is commonly used to describe a program or user requesting data in a client/server relationship, and may also be used to describe the physical hardware in which a client program is located. For the purposes of this" [column 2 lines 56-57];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant's invention to include, "said personal computer functions as at least one slave in said at least one shared operation," in the invention as disclosed by McKelvey, De Leva et al., & Alina et al. since a computer may be used as a client (i.e. slave) to its server (i.e. master).

Claim 72:

McKelvey, De Leva et al., & Alina et al. disclose a personal computer, as in Claim 50 above, but their combination do not explicitly disclose,

- "at least two of a hardware component, a software file, or a firmware file can be grouped exclusively together inside said at least one inner firewall," although Purtell et al. does suggest a group of devices with their own firewall, as recited below;

however, Purtell et al. does disclose,

- [Fig 2 illustrates groups of devices behind their own firewall];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant's invention to include, "at least two of a hardware component, a software file, or a firmware file can be grouped exclusively together inside said at least one inner firewall," in the invention as disclosed by Nelson et al. and McKelvey for the purposes of providing a firewall for each client.

7. Claims 3-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over McKelvey (US-5896499-A) in view of De Leva et al. (US-5784551) in view of Alina et al. (US-6366472) in view of Nelson et al. (US-5838542-A).

Claim 3:

McKelvey, De Leva et al., & Alina et al. disclose a personal computer, as in Claim 1 above, but their combination do not explicitly disclose,

- "said at least one microchip includes at least one special purpose microprocessor," although Nelson et al. does suggest a de-facto form factor microprocessor, as recited below;

however, Nelson et al. does disclose,

- "Over the years, for compatibility and other reasons, a number of popular system chassis have been "adopted" by the microprocessor based computer system manufacturers, especially in the desktop sector, as de-facto form factors" [column 1 lines 53-55];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant's invention to include, "said at least one microchip includes at least one special purpose microprocessor," in the invention as disclosed by McKelvey, De Leva et al., & Alina et al. for the purposes of compatibility.

Claim 4:

McKelvey, De Leva et al., & Alina et al. disclose a personal computer, as in Claim 1 above, but their combination do not explicitly disclose,

- "said at least one microchip includes at least one personal computer system on said microchip," although Nelson et al. does suggest a de-facto form factor microprocessor, as recited below;

however, Nelson et al. does disclose,

- "Over the years, for compatibility and other reasons, a number of popular system chassis have been "adopted" by the microprocessor based computer system manufacturers, especially in the desktop sector, as de-facto form factors" [column 1 lines 53-55];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant's invention to include, "said at least one microchip includes at least one personal computer system on said microchip," in the invention as disclosed by McKelvey, De Leva et al., & Alina et al. for the purposes of compatibility.

Claims 5-7:

McKelvey, De Leva et al., & Alina et al. disclose a personal computer, as in Claim 1 above, but their combination do not explicitly disclose,

- "said at least one microchip is at least partly surrounded by said at least one Faraday Cage optimized to shielding against magnetic flux, including high frequency flux," although Nelson et al. does suggest shield off electro-magnetic interference emissions from the processor, as recited below;

- "said at least one microchip is surrounded by said at least one Faraday Cage that is a continuous structure without holes," although Nelson et al. does suggest shield off electro-magnetic interference emissions from the processor, as recited below;
- "said at least one microchip is surrounded by at least two Faraday Cages," although Nelson et al. does suggest shield off electro-magnetic interference emissions from the processor, as recited below;

however, Nelson et al. does disclose,

- "the fourth plurality of fastening features of the metallic plate to allow the metallic plate and the back cover to physically and electro-magnetically form a Faraday cage enclosing the processor card to shield off electro-magnetic interference emissions from the processor" [column 2 lines 22-23];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant's invention to include, "said at least one microchip is at least partly surrounded by said at least one Faraday Cage optimized to shield against magnetic flux, including high frequency flux" and "said at least one microchip is surrounded by said at least one Faraday Cage that is a continuous structure without holes" and "said at least one microchip is surrounded by at least two Faraday Cages," in the invention as disclosed by McKelvey, De Leva et al., & Alina et al. for the purposes of shielding off electro-magnetic interference emissions from the processor.

8. Claims 8 & 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over McKelvey (US-5896499-A) in view of De Leva et al. (US-5784551) in view of Alina et al. (US-6366472) in view of Russell et al. (US-5627879-A).

Claim 8:

McKelvey, De Leva et al., & Alina et al. disclose a personal computer, as in Claim 1 above, but their combination do not explicitly disclose,

- "said at least one microchip is configured to said at least one network connection including wave division multiplexing or dense wave division multiplexing," although Russell et al. do suggest wave division multiplexing, as recited below;

however, Russell et al. do disclose,

- "Other modifications to the embodiments of FIGS. 17 through 35 include wave division multiplexing so that the fiber pairs may be replace with a single fiber" [column 21 lines 30-31];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant's invention to include, "said at least one microchip is configured to said at least one network connection including wave division multiplexing or dense wave division multiplexing," in the invention as disclosed by McKelvey, De Leva et al., & Alina et al. for the purposes of "replacing fiber pairs with a single fiber" [column 21 line 31].

Claim 26:

McKelvey, De Leva et al., & Alina et al. disclose a personal computer, as in Claim 10 above, but their combination do not explicitly disclose,

- "said personal computer is configured for a dense wave division multiplexing (DWDM) network connection," although Russell et al. do suggest wave division multiplexing, as recited below;

however, Russell et al. does disclose,

- "Other modifications to the embodiments of FIGS. 17 through 35 include wave division multiplexing so that the fiber pairs may be replace with a single fiber" [column 21 lines 30-31];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant's invention to include, "said personal computer is configured for a dense wave division multiplexing (DWDM) network connection," in the invention as disclosed by McKelvey, De Leva et al., & Alina et al. and McKelvey for the purposes of replacing fiber pairs with a single fiber.

9. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over McKelvey (US-5896499-A) in view of De Leva et al. (US-5784551) in view of Alina et al. (US-6366472) in view of Boulos et al. (US-6208634-B1).

Claim 9:

McKelvey, De Leva et al., & Alina et al. disclose a personal computer, as in Claim 1 above, but their combination do not explicitly disclose,

- "said at least one microchip is configured to said at least one network connection" and "said at least one connection being wireless and including CDMA (code division multiple access) or wideband CDMA," although Boulos et al. do suggest CDMA, as recited below;

however, Boulos et al. do disclose,

- "a method of initiating calls between a mobile station and a base station in a CDMA system… a microprocessor associated with the mobile station in electrical communication with the receiver" [column 1 lines 55-56 & column 2 lines 47-49];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant's invention to include, "said at least one microchip is configured to said at least one network connection" and "said at least one connection being wireless and including CDMA (code division multiple access) or wideband CDMA," in the invention as disclosed by McKelvey, De Leva et al., & Alina et al. for the purposes of wireless telecommunications over a common mobile communications system standard.

10. Claims 18, 19, 27, 28, 30, & 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over McKelvey (US-5896499-A) in view of De Leva et al. (US-5784551) in view of Alina et al. (US-6366472) in view of Bergsten (US-6073209-A).

Claims 18, 19, 27, & 28:

McKelvey, De Leva et al., & Alina et al. disclose a personal computer, as in Claim 10 above, but their combination do not explicitly disclose,

- "said at least one shared operation is initiated by at least one user of said personal computer" and "said at least one shared operation is initiated by said at least one other computer" and "said personal computer is configured to function as one of at least one master and at least one slave in said at least one shared operation" and "said personal computer is configured to be controlled by at least one remote master controller" and "said at least one other computer is at least one other personal computer connected via at least one peer-to-peer connection to said personal computer," although Bergsten does suggest peer-to-peer relationships, as recited below;

however, Bergsten does disclose,

- "operate in peer-to-peer relationships (as opposed to master-slave relationships) with each other when responding to remote access requests" [column 4 lines 51-53];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant's invention to include, "said at least one shared operation is initiated by at least one user of said personal computer" and "said at least one shared operation is initiated by said at least one other computer" and "said personal computer is configured to function as one of at least one master and at least one slave in said at least one shared operation" and "said personal computer is

configured to be controlled by at least one remote master controller" and "said at least one other computer is at least one other personal computer connected via at least one peer-to-peer connection to said personal computer," in the invention as disclosed by McKelvey, De Leva et al., & Alina et al. since peer-to-peer communications involve any user initiating a request.

Claim 68:

McKelvey, De Leva et al., & Alina et al. disclose a personal computer, as in Claim 50 above, but their combination do not explicitly disclose,

- "said second of said at least two memory hardware components duplicates a first of said at least two memory hardware components," Bergsten does suggest data mirroring, as recited below;

however, Bergsten does disclose,

- "data mirroring" [column 7 line 31];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant's invention to include, "said second of said at least two memory hardware components duplicates a first of said at least two memory hardware components," in the invention as disclosed by McKelvey, De Leva et al., & Alina et al. for the purposes of data back up and integrity.

11. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over McKelvey (US-5896499-A) in view of De Leva et al. (US-5784551) in view of Alina et al. (US-6366472) in view of Ault et al. (US-5764889-A).

Claim 20:

McKelvey, De Leva et al., & Alina et al. disclose a personal computer, as in Claim 10 above, but their combination do not explicitly disclose,

- "at least a part of said personal computer is idled by at least one user of said personal computer," although Reneris does suggest suspending a computer system, as recited below;

however, Reneris does disclose,

- "In general, "suspending" a computer system is similar to powering off the computer system (e.g., by turning off the main power switch), except that power to memory is maintained and dynamic RAM (DRAM) is refreshed, leaving the computer system in a "suspended" power state" [column 10 lines 44-49];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant's invention to include, "at least a part of said personal computer is idled by at least one user of said personal computer," in the invention as disclosed by McKelvey, De Leva et al., & Alina et al. for the purposes of "leaving the computer system in a "suspended" power state" [column 10 lines 48-49].

12. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over McKelvey (US-5896499-A) in view of De Leva et al. (US-5784551) in view of Alina et al. (US-6366472) in view of Reneris (US-5784628-A).

Claim 29:

McKelvey, De Leva et al., & Alina et al. disclose a personal computer, as in Claim 10 above, but their combination do not explicitly disclose,

- "said at least one shared operation is parallel processing and/or multitasking," although Ault et al. does suggest distributed computing systems, as recited below;

however, Ault et al. does disclose,

- "Distributed computing systems (in which the work is distributed among a plurality of interconnected machines) are often built on a client/server model" [column 1 lines 11-13];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant's invention to include, "said at least one shared operation is parallel processing and/or multitasking," in the invention as disclosed by McKelvey, De Leva et al., & Alina et al. for the purposes of distributing work.

13. Claims 48 & 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over McKelvey (US-5896499-A) in view of De Leva et al. (US-5784551) in view of Alina et al. (US-6366472) in view of Lapointe et al. (US-5606615-A).

Claims 48 & 49:

McKelvey, De Leva et al., & Alina et al. disclose a personal computer, as in Claim 10 above, their combination further comprising,

- "said at least one network-accessible portion being located outside said at least one said inner firewall" [FIG 3];
- "said at least one network-accessible portion being located outside said at least one said inner firewall" [FIG 3];

but their combination do not explicitly disclose,

- "power is interrupted to at least one network-accessible portion of at least one volatile memory of said personal computer to erase all files in said at least one network-accessible portion," although Lapointe et al. do suggest power off triggering an erasure of RAM, as recited below;
- "all files are overwritten in at least one network-accessible portion of at least one non-volatile memory of said personal computer to erase all files," although Lapointe et al. do suggest triggering the erasure of memory, as recited below;

however, Lapointe et al. do disclose,

- "a command being issued to a Power Off Switch 106 to erase RAM 102" [column 4 lines 58-59];

- "Further security against data theft is achieved through the use of Sensors, e.g., Photosensors, which trigger the erase of memory" [column 3 lines 29-31];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant's invention to include, "power is interrupted to at least one network-accessible portion of at least one volatile memory of said personal computer to erase all files in said at least one network-accessible portion" and "all files are overwritten in at least one network-accessible portion of at least one non-volatile memory of said personal computer to erase all files," in the invention as disclosed by Nelson et al. and McKelvey for the purposes of erasing information in memory.

Allowable Subject Matter

14. Claims 77, 85, & 86 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and if the above 35 U.S.C. 112 2nd paragraph issues can be corrected to clarify the scope of the applicant's invention.

Response to Arguments

15. Applicant's arguments, see pages 16-18, filed 03/12/2009, with respect to the rejection(s) of claim(s) 1-22, 24-30, 33-61, 63-73, 76, 77, & 79-86 under Non-Statutory Obvious-type Double Patenting and 35 U.S.C. 112 1st & 2nd paragraphs have been fully considered and are persuasive. Therefore, the rejections have been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of newly found prior art.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to the applicant's disclosure.

a. Muyshondt et al. (US-5475606) - faraday cage for printed circuit card;

b. Bright et al. (US-5357404-A) - EMI shield;

c. Hamano et al. (US-20010046119-A1) – EMI shield;

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Oscar Louie whose telephone number is 571-270-1684. The examiner can normally be reached Monday through Thursday from 7:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nasser Moazzami, can be reached at 571-272-4195. The fax phone number for Formal or Official faxes to Technology Center 2400 is 571-273-8300.

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/OAL/
06/16/2009

/David García Cervetti/
Primary Examiner, Art Unit 2436